AMENDMENTS TO THE CLAIMS

Claims 1-35. (Cancelled)

Please add the following new claims:

Claim 36. (New) An *in vitro* process of enabling meiotic recombination of partially homologous DNA sequences having up to 30% of base mismatches in animal cells, said process comprising:

genetically or physiologically manipulating animal cells *in vitro*, said animal cells comprising partially homologous DNA sequences having up to 30% of base mismatches, to render defective the enzymatic mismatch repair system of said animal cells, and

culturing said manipulated animal cells *in vitro* to effect meiotic recombination of said partially homologous DNA sequences.

Claim 37. (New) The process according to claim 36, wherein said animal cells are obtained by mixing *in vitro* (a) a first group of animal cells comprising a first DNA sequence with (b) a second group of animal cells comprising a second DNA sequence which is partially homologous to said first DNA sequence and which has up to 30% base mismatches with said first DNA sequence, to form said animal cells which are diploid.

Claim 38. (New) The process according to claim 36, wherein said enzymatic mismatch repair system of said animal cells are rendered defective by genetically or physiologically manipulating said animal cells to delete or make defective at least one homologue of *mutS* protein and/or at least one homologue of *mutL* protein.

Claim 39. (New) The process according to claim 38, wherein said enzymatic mismatch repair system of said animal cells are rendered defective by genetically or physiologically manipulating said animal cells to delete or make defective at least one eukaryotic homologue of *mutS* protein.

Claim 40. (New) The process according to claim 36, wherein said animal cells are germ-line cells.

Claim 41. (New) An *in vitro* process of making hybrid animal cells, said process comprising:

mixing *in vitro* (a) a first group of animal cells (i) comprising a first DNA sequence and (ii) having a defective enzymatic mismatch repair system which is made defective by genetic or physiological manipulation, with (b) a second group of animal cells (i) comprising a second DNA sequence which is partially homologous to said first DNA sequence and which has up to 30% base mismatches with said first DNA sequence, and (ii) having a defective enzymatic mismatch repair system which is made defective by genetic or physiological manipulation, to form diploid animal cells,

culturing said diploid animal cells *in vitro* to effect meiotic recombination of said partially homologous first and second DNA sequences, to make hybrid animal cells, and

recovering said hybrid animal cells.

Claim 42. (New) An *in vitro* process of making hybrid animal cells, said process comprising

genetically or physiologically manipulating *in vitro* animal cells to render defective the enzymatic mismatch repair system of said animal cells, said animal cells comprising partially homologous DNA sequences having up to 30% of base mismatches, and

culturing said manipulated animal cells *in vitro* to effect meiotic recombination of said partially homologous DNA sequences of said animal cells, to make hybrid animal cells, and

recovering said hybrid animal cells.

Claim 43. (New) An *in vitro* process for obtaining hybrid DNA sequences, which comprises

making said hybrid animal cells according to claim 42, and

isolating hybrid DNA sequences of said hybrid animal cells.

Claim 44. (New) The process according to claim 43, wherein said hybrid DNA sequences comprise a gene.

Claim 45. (New) An *in vitro* process of obtaining proteins encoded by hybrid DNA sequences comprising

obtaining said hybrid DNA sequences according to the process of claim 43, and

expressing proteins encoded by said hybrid DNA sequences.

Claim 46. (New) The process according to claim 45, wherein said hybrid DNA sequences comprise a gene.

Claim 47. (New) The process according to claim 42, wherein said enzymatic mismatch repair system of said animal cells are rendered defective by genetically or physiologically manipulating said animal cells to delete or make defective at least one homologue of *mutS* protein and/or at least one homologue of *mutL* protein.

Claim 48. (New) The process according to claim 47, wherein said enzymatic mismatch repair system of said animal cells are rendered defective by genetically or physiologically manipulating said animal cells to delete or make defective at least one eukaryotic homologue of *mutS* protein.

Claim 49. (New) The process according to claim 42, wherein said animal cells are germ-line cells.